

1 What is claimed is:

2 *Sub A* 1. A video projection screen assembly comprising:

3 a) a screen structured to have video images
4 projected thereon and formed of a material having sufficient
5 flexibility to be disposed between an expanded position and a
6 collapsed position,

7 b) a support frame attached in supporting relation
8 to said screen and structured to dispose and maintain said
9 screen in a substantially flat, vertical orientation when said
10 screen is in said expanded position,

11 c) said support frame comprising a first portion
12 connected to said screen and moveable therewith, and a base
13 portion fixedly disposed relative to said screen and said first
14 portion when said screen travels between said expanded and
15 collapsed positions,

16 d) said support frame further comprising a
17 positioning assembly movably interconnected with said first
18 portion and structured to facilitate travel of said screen from
19 said collapsed position to said expanded position,

20 e) said positioning assembly including at least one
21 piston assembly positionable between a compressed position and
22 an extended position and disposed in driving relation to said
23 first portion and accordingly said screen connected thereto, and

24 f) said at least one piston assembly cooperatively
25 structured with a remainder of said positioning assembly to

1 normally bias and maintain said screen in said expanded
2 position.

3 2. A video projection screen assembly as recited in claim
4 1 wherein said piston assembly comprises a gas spring structured
5 to expand with sufficient force so as to urge and maintain said
6 first portion of said support frame and accordingly said screen
7 connected thereto in said expanded position.

8 2
9 1. A video projection screen assembly as recited in claim
10 1 wherein said gas spring is structured to urge said first
11 portion automatically upwardly into spaced apart relation from
12 said base portion so as to define said expanded position of said
13 screen.

14 3
15 4. A video projection screen assembly as recited in claim
16 2 wherein said base portion is structured to contain said first
17 portion and said screen upon said screen being in said
18 compressed position, said base portion being ~~substantially~~
19 portable so as to facilitate expansion of said screen in a
20 remote location.

21 4
22 3. A video projection screen assembly as recited in claim
23 1 wherein said base portion includes a pivoting lid member, said
24 lid member structured to contain said first portion and said
25 screen within said base portion when in said compressed
orientation.

4
5. A video projection screen assembly as recited in claim
1 wherein said positioning assembly is structured to

1 automatically open said lid member upon positioning of said
2 screen into said expanded position.

3 ⁶ 7. A video projection screen assembly as recited in claim
4 1 further comprising a lock assembly structured and disposed to
5 maintain said first portion in closely spaced relation to said
6 base portion, and thereby maintain said screen in said
7 compressed orientation.

8 ⁷ 8. A video projection screen assembly as recited in claim
9 ⁶ 7 wherein said lock assembly is remotely actuatable so as to
10 release said first portion and permit said piston assembly to
11 automatically urge said first portion upwardly into spaced apart
12 relation from said base portion so as to define said expanded
13 position of said screen.

14 ⁸ 9. A video projection screen assembly as recited in claim
15 ¹ 8 wherein said support frame further comprises at least one set
16 of arms interconnected between said base portion and said first
17 portion.

18 ⁹ 10. A video projection screen assembly as recited in claim
19 ⁸ 9 wherein said one set of arms comprises two arm segments
20 pivotally interconnected to one another at corresponding ends of
21 each arm segment, and each arm segment including a distal end
22 respectively connected to a different one of said first portion
23 and base portion; said one gas spring interconnected in biasing
24 relation with at least one of said two arm segments so as to
25 normally pivotally extend said distal ends of said arm segments

1 apart from one another.

2 ¹⁰ 11. A video projection screen assembly as recited in claim
3 ⁹ 10 wherein said one gas spring is coupled between both of said
4 arm segments.

5 12. A video projection screen assembly as recited in claim
6 9 wherein said positioning assembly further includes an
7 auxiliary spring assembly interconnected between said base
8 portion and said first portion and cooperatively structured with
9 said one gas spring to further bias said screen towards and into
10 said expanded position.

11 11. A video projection screen assembly as recited in claim
12 ¹ 12 wherein said auxiliary spring assembly is mounted on said one
13 set of arms and is cooperatively structured therewith to further
14 facilitate disposal and maintenance of said screen in said
15 vertical orientation and said expanded position.

16 ¹² 14. A video projection screen assembly as recited in claim
17 ¹ 13 wherein said support frame further comprises at least two sets
18 of arms, each set of arms disposed in spaced relation to one
19 another and interconnected between said base portion and said
20 first portion.

21 ¹³ 15. A video projection screen assembly as recited in claim
22 ¹² 14 further comprising ^{said} an auxiliary spring assembly mounted on
23 each of said two sets of arms and cooperatively structured with
24 respective ones of said two sets of arms to further facilitate
25 disposal and maintenance of said screen in said vertical

1 orientation and said expanded position.

2 ¹⁴
12 ¹⁶. A video projection screen assembly as recited in claim
3 ¹⁴ wherein each of said two sets of arms comprises two arm
4 segments pivotally connected to one another at corresponding
5 ends of said two arm segments, said two arm segments of each set
6 of arms collectively interconnected between said first portion
7 and said base portion.

8 ¹⁵
14 ¹⁷. A video projection screen assembly as recited in claim
9 ¹⁶ wherein said positioning assembly comprises at least two of
10 said gas springs each connected in driving relation with at
11 least one of said two arm segments of a different one of said
12 two sets of arms and structured to normally urge said distal
13 ends of said arm segments into spaced apart relation from one
14 another.

15 ¹⁶
15 ¹⁸. A video projection screen assembly as recited in claim
16 ¹⁷ wherein said gas springs are connected between said arm
17 segments of each of said sets of arms.

18 19. A video projection screen assembly as recited in claim
19 18 further including an auxiliary spring assembly, said
20 auxiliary spring assembly comprising at least two biasing
21 springs each connected to a different one of said two arms sets
22 and being disposed and cooperatively structured with a
23 respective one of said two gas springs to further bias said
24 screen into said vertical orientation and said expanded
25 position.

18
16 20. A video projection screen assembly as recited in claim
18 wherein said positioning assembly further comprises at least
one supplementary gas spring mounted on said support frame in
biasing relation to one of said two sets of arms.

19
18 21. A video projection screen assembly as recited in claim
20 wherein said positioning assembly further comprises two
supplementary gas springs each mounted on said support frame in
biasing relation to a different one of said two sets of arms.

20
19 22. A video projection screen assembly as recited in claim
21 wherein each of said two supplemental gas springs is
interconnected between said base portion and one arm segment of
a different one of said two sets of arms.

21
16 23. A video projection screen assembly as recited in claim
18 wherein said collapsed position of said screen is at least
partially defined by a ~~substantially~~ folded, side by side
orientation of said arm segments of each of said two sets of
arms and a compressed, retracted orientation of each of said two
gas springs.

22
24. A video projection screen assembly as recited in claim
1 wherein said screen is structured to retract into a rolled up
orientation within said base portion.

23
25. A video projection screen assembly as recited in claim
1 further including a retraction assembly structured to retract
said screen into said base portion so as to counter a force of
said positioning assembly and position said screen in said

1 collapsed position.

2 26. A video projection screen assembly designed to be
3 selectively disposed between an exposed position and a retracted
4 position, said assembly comprising:

5 a) a screen formed of a material having sufficient
6 flexibility to be disposed between an expanded position and a
7 collapsed position,

8 b) a support frame attached in supporting relation
9 to said screen and structured to dispose and maintain said
10 screen in a substantially vertical orientation when said screen
11 is in said expanded position,

12 c) said support frame comprising a first portion
13 connected to said screen and moveable therewith and a base
14 portion fixedly mounted relative to said screen and said first
15 portion as said screen travels between said expanded and
16 collapsed positions, and

17 d) a positioning assembly including at least one gas
18 spring cooperatively disposed and structured to exert a biasing
19 force on said first portion tending to urge said screen into
20 said vertically oriented, expanded position.

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